

REMARKS

Claims 1-12, 14 and 15 are pending in the present application. Claims 1, 2, 9-12, 14 and 15 have been amended. Claims 1 and 9 are independent. Reconsideration of this application, as amended, is respectfully requested.

Drawings

The drawings stand objected to under 37 C.F.R. § 1.83(a) as not illustrating every feature of the invention as specified in the claims. Specifically, the Examiner asserts that the memory and processor must be shown or the features should be canceled from the claims. Applicant respectfully submits that the drawings are in proper form.

Referring to page 12, lines 16 and 17 of the present specification, it is stated "the controller CON comprising a CPU, memory, I/O device and the like." In view of this, the memory and processor recited in the present claims are illustrated in FIG. 4 by the identifier "CON." It is believed that the inclusion of the controller CON in FIG. 4 is sufficient to one having ordinary skill in the art to understand that this controller CON illustrates the memory and processor. In view of this, Applicant submits that the drawings are in proper form. Reconsideration and withdrawal of the Examiner's drawing objection are therefore respectfully requested.

Objection to the Claims

Claims 1 and 2 stand objected to for minor informalities. This objection is respectfully traversed.

At the outset, it appears that lines 1 and 6 of the Examiner's claim objection are incorrect. Lines 1 and 6 indicate that claims 2 and 6 are objected to; however, it is believed that the Examiner intended to object to independent claim 9 and not either of dependent claims 2 and 6.

In any event, as the Examiner will note, independent claims 1 and 9 have been amended to recite "a relationship" between the force exerted on a vehicle wheel and a physical parameter of the vehicle wheel at at least one predetermined measuring position.

The word "functionality" is used in the present specification as an equivalent to the word "relationship." This can be understood from the brief description of FIG. 2, which appears on page 2 of the present specification and states "Fig. 2 is a diagram for explaining functionality or relationships between variations of strain and wheel forces exerted on a vehicle wheel."

In view of the above amendments and remarks, Applicant submits that the claim objection has been obviated. Reconsideration and withdrawal of this objection are therefore respectfully requested.

Rejection Under 35 U.S.C. §§ 102 and 103

Claims 9 and 15 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Miyazaki, USPN 6,651,518. Claims 10-13 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Miyazaki in view of Kuchler et al., USPN 5,894,094. Claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Miyazaki in view of Nishizaki et al., U.S. Application Publication No. 2002/0030407. These rejections are respectfully traversed.

At the outset, it is noted that the Examiner's statement of the rejection under 35 U.S.C. § 102 indicates that claim 15 is anticipated by Miyazaki. However, the body of the rejection discusses claim 14 and the Examiner has rejected claim 15 under 35 U.S.C. § 103 as being obvious over the Miyazaki and Nishizaki et al. references. In view of this, it appears that the Examiner has rejected claim 14, and not claim 15 as being anticipated by Miyazaki. If this understanding is incorrect, it is requested that the Examiner clarify this in the next Office Communication.

With regard to the merits of the Examiner's rejection, as the Examiner will note, independent claim 9 has been amended to include the subject matter of dependent claim 13, which has been canceled. In addition, independent claim 9 has been amended to recite that the at least one sensor is "attached to the radius part." Finally, independent claim 9 has been amended to clarify that the memory stores a formula of the physical parameter and "the formula is made in advance using data on a relationship between the force exerted on the vehicle wheel and the physical parameter of the vehicle wheel at at

least one predetermined measuring position.” Applicant respectfully submits that the references relied on by the Examiner fail to teach or suggest the present invention as recited in independent claim 9.

Independent claim 9 has been amended to recite that the at least one sensor is attached to the radius part. In addition, independent claim 9 has been amended to include the subject matter of dependent claim 13. Therefore, it is believed that the Examiner’s rejection under 35 U.S.C. § 102(e) in view of the Miyazaki reference has been rendered moot. In view of this, the following comments will be provided with regard to the Examiner’s rejection under 35 U.S.C. § 103(a) in view of the Miyazaki and Kuchler et al. references.

Miyazaki is directed to a device that includes a stress detection sensor for measuring action force of a wheel. Referring to FIGS. 1, 15 and 16 of Miyazaki, a stress detection sensor 3 is located within a hole 2 formed in an axle 1 of the automobile. In view of this, the Miyazaki reference fails to disclose a sensor attached to the radius part of a vehicle wheel as recited in independent claim 9. In addition, the Miyazaki reference is silent with regard to the provision of “a device for locating said at least one sensor in order to measure the physical parameter when the sensor is at the predetermined measuring position” as recited in independent claim 9. However, the Examiner appears to rely on the Kuchler et al. reference in order to modify Miyazaki in order to arrive at the present invention. Applicant submits that the Examiner’s modification would not have been obvious to one having ordinary skill in the art. In addition, even if the modification were obvious, a fact

which Applicant does not agree with, this modification would not arrive at the present invention as recited in independent claim 9.

First, the Examiner relies on the Kuchler et al. reference to locate the sensor on a radius part of the vehicle wheel. Although the Kuchler et al. reference does disclose locating a sensor on a radius part of a vehicle wheel, Applicant submits that modifying Miyazaki to include a sensor at this location would be contrary to the teachings of Miyazaki and therefore non-obvious.

Referring to column 6, lines 15-30 of Miyazaki, it is described that the axle center line is the center line of bending deformation generated in axle 1 by the road surface frictional force, vertical drag and side force acting on the wheel rotating about a spindle or the center line of a torsional deformation which is generated in the axle by a break torque on actuation of the brake. In addition, at column 6, lines 42-44 of Miyazaki, it is stated that the stress detection sensor 3 is inserted in the hole 2 and installed "on the axle center line (the center axis 5 of the axle)."

Applicant submits that in order for the Miyazaki device to operate properly, it is necessary that the sensor 3 be located adjacent to or on the axle center line. Therefore, moving the sensor 3 to the radius part of a wheel would destroy the operability of Miyazaki. In view of this, Applicant submits that the modification of Miyazaki in view of the Kuchler et al. reference is non-obvious.

Further to the above, since the modification of Miyazaki in view of Kuchler et al. to include the sensors on the radius part of the vehicle wheel would be non-obvious, it would

also be non-obvious to include a device for locating the sensor to measure the physical parameter when the sensor is at a predetermined measuring position. Specifically, the Examiner indicates that the Kuchler et al. reference discloses this aspect of the present invention as well. However, since the sensor of Miyazaki needs to be located on the axis of the vehicle wheel, there is no need to include a device for locating the sensor as in the presently claimed invention and as in the Kuchler et al. device. The reason for this is that the sensor is located on the axis of the axle and does not move when the axle is rotated. Accordingly, this modification proposed by the Examiner would also be non-obvious.

Finally, the Miyazaki reference fails to disclose a memory as in the presently claimed invention. In the Examiner's Office Action, the Examiner indicates at page 4 that Miyazaki does not explicitly teach a memory; however, the Examiner considers the signal processing circuit to be the memory of the present invention. Although Applicant does not completely agree with the Examiner's position, in order to expedite the prosecution, claim 9 has been amended to recite that the memory stores a formula of the physical parameter and "the formula is made in advance using data on a relationship between the force exerted on a vehicle wheel and a physical parameter of the vehicle wheel at at least one predetermined measuring position." In Miyazaki, the signal processing circuit merely measures the strain. There is no indication in Miyazaki that discloses the use of a formula that uses data on a relationship between a force exerted on the vehicle wheel and a physical parameter as recited in independent claim 9. In view of this, the Miyazaki reference fails to anticipate or render obvious the presently claimed invention.

With regard to dependent claims 10-12, 14 and 15, Applicant respectfully submits that these claims are allowable due to their dependence upon independent claim 9, as well as due to the additional recitations in these claims.

With regard to the Examiner's reliance on the Nishizaki et al. reference, this reference has only been relied on to disclose a device to determine a braking force during braking and a controller for controlling the braking mechanism. Nishizaki et al. fails to disclose a sensor located on a radius part, a device for locating the sensor or a memory that includes a formula stored therein that is made in advance using data on a relationship between a force exerted on a vehicle wheel and the physical parameter of the vehicle wheel as recited in independent claim 9. In view of this, the Nishizaki et al. reference fails to make up for the deficiencies of Miyazaki and Kuchler et al.

In view of the above amendments and remarks, Applicant respectfully submits that claims 9-12, 14 and 15 clearly define the present invention over the references relied on by the Examiner. Therefore, reconsideration and withdrawal of the Examiner's rejections under 35 U.S.C. §§ 102 and 103 are respectfully requested.

Allowable Subject Matter

Claims 1-8 have been indicated by the Examiner as being in condition for allowance if the claim objection is overcome. Applicant greatly appreciates this indication from the Examiner. As mentioned above, independent claim 1 has been amended to address the

Examiner's claim objection. Therefore, it is believed that claims 1-8 are now in condition for allowance.

Favorable consideration and early allowance of the present application are therefore respectfully requested.

CONCLUSION

Since the remaining references cited by the Examiner have not been utilized to reject the claims, but merely to show the state-of-the-art, no further comments are deemed necessary with respect thereto.

All the stated grounds of rejection have been properly traversed and/or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently pending rejections and that they be withdrawn.

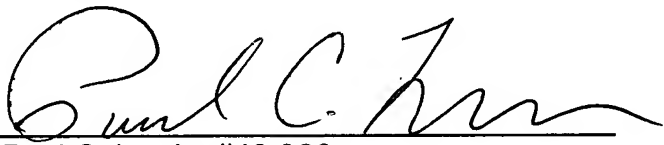
It is believed that a full and complete response has been made to the Office Action, and that as such, the Examiner is respectfully requested to send the application to Issue.

Applicant respectfully petitions under the provisions of 37 C.F.R. § 1.136(a) and § 1.17 for a two-month extension of time in which to respond to the Examiner's Office Action. The Extension of Time Fee in the amount of **\$450.00** is attached hereto.

In the event there are any matters remaining in this application, the Examiner is invited to contact Paul C. Lewis, Registration No. 43,368 at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 
Paul C. Lewis, #43,368

PCL/cl
0229-0785P

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000

Attachment(s)